

a liquid-crystal layer disposed between said electrode-formed substrate and said color-filter-formed substrate,

wherein a plurality of pixel electrodes and common electrodes are disposed alternately in parallel at predetermined intervals in insulating film,

an electric field substantially parallel to said electrode-formed substrate and said color-filter-formed substrate is applied to said liquid-crystal layer by applying an alternating-current voltage between said pixel electrode and said common electrode,

said pixel electrode and said common electrode are connected to an external control means by which the applied electric field is arbitrarily controlled according to a display pattern,

two orientation films are formed directly on or disposed in said insulating film on said electrode-formed substrate and said color-filter-formed substrate, respectively,

said two orientation films are disposed opposite from each other and with a predetermined clearance by a panel spacer,

nematic liquid crystal fills said clearance while being anti-parallel oriented,

a circuit to send an electrical signal to each of respective color layers (R, G, B) of said color filter layer is provided to make a difference in a central value of drain signal voltages for said respective color layers (R, G, B), and

said difference in said central value of drain signal voltages is set to satisfy the relation:

$$V_{\text{BLUE}} (V) = V_{\text{RED}} (V) - 0.2 (V) = V_{\text{GREEN}} - 0.1 (V),$$

where V_{BLUE} , V_{RED} and V_{GREEN} are central values of drain voltages blue, red and green, respectively.

~~2~~ 6. (Amended) An active matrix liquid-crystal display device, comprising:

an electrode-formed substrate comprising a drain signal electrode, a gate signal electrode, a pixel electrode and a common electrode that forms a pixel unit, and an active element;

a color-filter-formed substrate having no electrode and comprising a color filter layer of red (R), green (G) and blue (B) for allowing color light to be transmitted therethrough; and

a liquid-crystal layer disposed between said electrode-formed substrate and said color-filter-formed substrate,

wherein a plurality of pixel electrodes and common electrodes are disposed alternately in parallel at predetermined intervals in insulating film,

an electric field substantially parallel to said electrode-formed substrate and said color-filter-formed substrate is applied to said liquid-crystal layer by applying an alternating-current voltage between said pixel electrode and said common electrode,

said pixel electrode and said common electrode are connected to an external control means by which the applied electric field is arbitrarily controlled according to a display pattern,

two orientation films are formed directly on or disposed in said insulating film on said electrode-formed substrate and said color-filter-formed substrate, respectively,

said two orientation films are disposed opposite from each other and with a predetermined clearance by a panel spacer,

nematic liquid crystal fills said clearance while being anti-parallel oriented,

a circuit to send an electrical signal to each of respective color layers (R, G, B) of said color filter layer is provided to make a difference in a central value of drain signal voltages for said respective color layers (R, G, B), and

resistivity Y (Ω cm) of said respective color layers (R, G, B), and difference X (V) between the central value of the drain signal voltage at the red color layer and the central value of the drain signal voltage at each of said respective color layers (R, G, B) is set to satisfy the relation:

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Concl'd*

$$Y = C X + D,$$

where C and D are in the range of:

$$3 \times 10^{11} < C < 7 \times 10^{11}$$

$$0.5 \times 10^{11} < D < 1.0 \times 10^{11}$$

and preferably,

$$C = 5 \times 10^{11}$$

$$D = 0.8 \times 10^{11}.$$
